

**ADDENDUM TO THE DRAFT ECONOMIC IMPACT
ANALYSIS OF CRITICAL HABITAT DESIGNATION
FOR THE OTAY TARPLANT**

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Prepared for:

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INTRODUCTION

On June 13, 2001 the U.S. Fish and Wildlife Service (the Service) proposed designation of critical habitat under the Endangered Species Act of 1973, as amended (the Act), for the Otay tarplant (*Deinandra conjugens*) on approximately 6,630 acres of land in San Diego County, California. Because the Act also calls for an economic analysis of the critical habitat designation, the Service released a *Draft Economic Analysis of Critical Habitat Designation for the Otay Tarplant (DEA)* for thirty day public review and comment on July 10, 2002.¹

This addendum to the *DEA* addresses issues raised during the public comment period for that analysis, and incorporates additional information received through personal communications with the Service and consulting firms with experience in San Diego County in regard to public comments on the *DEA*.

REVISIONS TO THE DRAFT ECONOMIC ANALYSIS

The following sections describe the implications of, and responses to, the public comment to the *DEA*, as well as additional research on the analysis presented in the *DEA*. Section numbers presented in the headers of this Addendum refer to the section numbers of the *DEA*.

1.3 Relevant Baseline Elements

This section clarifies statements pertaining to consultation costs.

A comment letter from McMillin Land Development, dated August 9, 2002, addresses several instances throughout the *DEA* where it appears that the costs of anticipated consultations or projects modifications have been left out of the analysis or reduced as a result of existing state regulations or the presence of other endangered species. This comment may stem from a misinterpretation of the approach applied in the draft analysis. The *DEA* qualitatively explains in these instances that the critical habitat costs are likely an overstatement of total cost because consultations may address multiple species, and/or a portion of the consultation costs may be required to comply with state regulations (e.g., the California Environmental Quality Act) regardless of the designation of critical habitat. However, due to the difficulty associated with separating these types of baseline costs from consultation costs associated with the tarplant and its habitat, in almost every instance, the *DEA* conservatively, in that it is more likely to overestimate rather than underestimate costs, quantifies and attributes *all* of these administrative and project modification costs to the implementation of section 7 of the Act. In other words, although the analysis

¹ Copies of the *Draft Economic Analysis of Critical Habitat Designation for the Otay Tarplant* are available by writing to the Field Supervisor, Carlsbad Fish and Wildlife Office, U.S. Fish and Wildlife Service, 2730 Loker Avenue West, Carlsbad, CA 92008.

qualitatively discusses the possibility that some of the costs may actually belong in the baseline, in most cases, the analysis does not actually attempt to subtract out these baseline costs.

The one exception is the case of project modifications to the McMillin Land Development project (referred to in the *DEA* as Rolling Hills Ranch), where sufficient information was available to separate costs associated with project modifications meant to protect species other than the tarplant. In this case, costs associated specifically with those other species are correctly attributed to the baseline, because they would be incurred even in the absence of critical habitat designation for, and listing of, the tarplant.

Therefore, paragraph 15 of the *DEA*, which states: "...this analysis conservatively assumes that all costs resulting from future consultations are fully attributable to section 7 of the Act," requires correction. This is true for the administrative consultation costs, as mentioned in the preceding paragraphs, and the costs of associated project modifications that are not easily separable by species. This statement is also true for most of the consultations in the analysis involving multiple species that result in project modifications. However, in cases where specific project modifications are definitively attributable to a particular species other than the tarplant, those project modification costs are appropriately attributed to the baseline and should be excluded from the total estimated section 7 costs. In these cases, the cost of the consultation itself, and the identified project modifications relevant to the Otay tarplant, will remain included as a section 7 impact.

1.4 Socioeconomic Profile of the Critical Habitat Areas

Paragraph 26 of the *DEA* states that "The unincorporated areas of San Diego County included in the proposed critical habitat designation face less development pressure than those areas surrounding proposed critical habitat in the City of Chula Vista." This statement is based on the estimated 29 percent population growth and 27 percent growth in residential development of the unincorporated areas of San Diego county, versus the 54 percent population growth and 50 percent growth in residential development of the City of Chula Vista. However, this statement may be misleading as it fails to recognize the availability of developable land in the City of Chula Vista versus the County. McMillin Land Development, in its comment letter on the *DEA*, clarifies that although the percent growth of the County may be less, there is significant development pressure due to this shortage of developable land.

2.0 FRAMEWORK, METHODOLOGY, AND IMPACTS

This section provides additional justification for the methodology used in quantifying total section 7 impacts resulting from critical habitat designation for the Otay tarplant.

2.1 Framework for Analysis

The *DEA* estimates impacts of listing and critical habitat designation on activities that are "reasonably foreseeable," including, but not limited to, activities that are currently authorized, permitted, or funded, or for which proposed plans are currently available to the public. Proposals for land improvement projects on specific parcels are often unavailable for time periods extending beyond ten years. Staff at the San Diego County planning office state that typically land development projects are brought in for approval only three to five years before execution.² As the time horizon is expanded, the assumptions on which the projected numbers of projects are based become increasingly speculative. It is difficult to predict not only the number of development projects, but also the cost estimates for the consultations, beyond a ten year window. Costs for section 7 consultations may increase or decrease dependent on factors other than in(de)flation. For example, changes in requirements for development of a biological assessment may occur, or fluctuations in the cost of biologists and consultants. In order to maintain reasonable confidence in the estimated total section 7 costs, the *DEA* quantifies costs occurring within a ten year time frame. Exceptions include known projects that are definitively planned beyond that time frame. There are no such projects in this case.

2.3 Information Sources

Estimated third party administrative costs associated with section 7 consultations, reinitiations, and technical assistance efforts are presented in Exhibit Add-1 (these are per effort estimates). The estimated costs for consultations are revised from the *DEA* based on personal communication with consulting firms that conduct business in San Diego County.³ These estimates were revisited due to comments from McMillin Land Development (August 9, 2002) that third party costs, as quantified in the *DEA* were "grossly underestimated". Exhibit Add-1 summarizes the revised third party section 7 costs accordingly.

² Personal communication with San Diego County Department of Planning and Land Use, September 6, 2002.

³ Personal communication with consultants from Tetra Tech, Incorporated in San Bernardino, CA, and P&D Consultants in Orange, CA, September 4, 2002.

Exhibit Add-1		
ESTIMATED ADMINISTRATIVE COSTS OF CONSULTATION AND TECHNICAL ASSISTANCE EFFORTS FOR THE OTAY TARPLANT		
Critical Habitat Impact	Scenario	Third Party Costs (per consultation)
Technical Assistance	Low	\$600
	High	\$1,500
Informal Consultation	Low	\$15,000
	High	\$25,000
Formal Consultation	Low	\$25,000
	High	\$50,000
Notes: 1. Low and high estimates primarily reflect variations in third party staff wages and time involvement by staff. 2. The third party consultation costs include a biological assessment. Sources: IEc analysis based on data from communications with staff from Tetra Tech, Incorporated, San Bernardino, CA.		

These costs are consistent with the estimates provided in public comment and with less specific estimates provided by other regional consulting firms.⁴

2.4 Economic Impacts

This section revises the cost estimates for consultations occurring within the Otay Valley/Big Murphy's Unit (Unit 3).

2.4.3 Otay Valley/Big Murphy's Unit

The Otay Valley/Big Murphy's Unit (Unit 3) encompasses approximately 2,249 acres of land. The unit includes Federal lands owned by the INS, private land known as the Otay Ranch Land Preserve, and an area known as Big Murphy's Hill belonging to several private landowners. This section of the addendum incorporates new information regarding project modifications for the Salt Creek sewer interceptor project. Additionally, since the writing of the *DEA*, the Service has identified two additional section 7 consultations, the Hunte Parkway extension project and the Eastern Otay drainage facilities project, occurring within this unit. Data regarding specific project

⁴ Personal communication with consultants from Tetra Tech, Incorporated in San Bernardino, CA, and P&D Consultants in Orange, CA, September 4, 2002.

modifications for all three consultations are based on the respective Biological Assessments authored by Dudek and Associates, Incorporated and personal communication with the Service and with consultants from Dudek and Associates, Incorporated. The estimated costs of these additional consultations are also presented in this section and summarized in Exhibit Add-2.

Salt Creek Interceptor Sewer Project

The *DEA* estimated that one informal consultation would occur with respect to the Salt Creek sewer interceptor project. New information shows that this recently completed consultation was actually formal and resulted in a number of project modifications. A comment letter from McMillin Land Development suggested that costs associated with “extraordinary design measures” for the Salt Creek sewer line should be considered as part of the economic costs of critical habitat designation as many of these costs are directly attributable to the Otay tarplant. According to the Service, project modifications associated with the Salt Creek sewer line were primarily due to substantial avoidance of habitat occupied by the Quino checkerspot butterfly, coastal California gnatcatcher, and least Bell’s vireo, along with other species covered under the Multiple Species Conservation Program (MSCP) plan in the Salt Creek/Otay River area.⁵ However, as one of the covered species, the Otay tarplant played a minor role in the recommended project modifications. Specific project modifications (i.e., flagging of additional 200 feet of known occurrences adjacent to the project site) address particular patches of the tarplant that may be affected by the project. This analysis therefore considers all administrative costs of the formal section 7 consultation, and the costs of the relevant project modifications, as co-extensive to the listing of the tarplant.

The proposed project is a 73, 519 foot length of pipe extending from existing sewer facilities near Olympic Parkway south along South Creek, west along the Otay River, and connecting to the City of San Diego Metro Interceptor Sewer.⁶ The project requires a section 404 permit pursuant to the Clean Water Act (404 permit) from the Army Corps of Engineers (ACOE). Project modifications were recommended in addition to the baseline protections afforded to the species under the project Best Management Practices (BMPs), which include fencing of project area, monitoring, and education programs for the construction workers. The added project modifications for the Otay tarplant were formalized in a letter from the Service to the ACOE dated June 11, 2002 and consist of:

- Flagging of approximately 200 feet of habitat that lie outside of the immediate project area (this flagging is additional to the marking of the immediate project area required by BMPs) at a cost of approximately \$500;

⁵ Written correspondence from Biologist, Carlsbad Fish and Wildlife Service, September 26, 2002.

⁶ Dudek and Associates, Incorporated. “Final Program Environmental Impact Report Salt Creek Interceptor Sewer.” June 2001.

- Soil salvaging of 13.2 acres of land temporarily impacted by the project and 7.2 acres of permanently impacted land at a cost \$32,600 to \$65,300;
- Revegetation and restoration of 13.2 acres of temporarily impacted land at a cost of \$132,000 to \$198,000; and
- Annual monitoring, reporting, and remediation if required for the revegetated area for approximately five years at an annual cost of \$35,600, for a total cost of \$178,000.

The estimated total cost of these project modifications ranges from \$343,000 to \$442,000.⁷ This estimate is conservative (i.e., more likely to overstate rather than understate costs) as it may not be feasible to salvage or revegetate the entire acreage impacted by the project. Additionally, the monitoring, reporting, and remediation costs are likely to overstate the true costs of annual maintenance as this is anticipated to be a minor effort.⁸ Administrative costs for the formal section 7 consultation are anticipated to be \$3,900 to \$6,500 for the ACOE, \$25,000 to \$50,000 for the City of Chula Vista and \$3,100 to \$6,100 for the Service.⁹ Therefore, total section 7 costs for the Salt Creek sewer interceptor project range from \$375,000 to \$505,000. The following evidence indicates that this consultation and the resulting project modifications would have likely taken place even in the absence of proposed critical habitat: (1) the presence of listed animals at this site prompting a section 7 consultation; (2) information provided by the MSCP plan about the potential presence of the plant in this area; and (3) the actual occurrence of the plant in the area of the proposed project modifications. All costs are therefore considered to be co-extensive with the listing of the tarplant.

Hunte Parkway Extension Project

The Hunte Parkway extension project, part of the City of Chula Vista's larger Otay Ranch General Development Plan, is a proposed six-lane arterial roadway requiring an ACOE 404 permit.¹⁰ This consultation is anticipated to be formal and will address critical habitat for the Quino checkerspot butterfly and coastal California gnatcatcher in addition to the Otay tarplant. In addition, this consultation will address impacts to individual coastal California gnatcatchers and Otay tarplants. The proposed project is expected to directly impact 175 Otay tarplants located within 0.2

⁷ Cost estimate for flagging (\$2.50 per foot), soil salvaging (\$1,600 to \$3,200 per acre), and revegetation (\$10,000 to \$15,000 per acre) are based on personal communication with consultant at Dudek and Associates, Incorporated, October 7, 2002; Cost estimate for yearly monitoring and reporting is based on yearly management and administrative costs for purchased lands for the Rolling Hills Ranch Development project (\$2,700 per acre) as outlined in Section 2.4.1 of the *DEA*.

⁸ Personal communication with Carlsbad Fish and Wildlife Service Office, October 2, 2002.

⁹ See Exhibit 1 of the *DEA*, and Exhibit Add-1 of this addendum.

¹⁰ Personal communication with Carlsbad Fish and Wildlife Service Office, September 26, 2002.

acres of the project area. BMPs will be implemented in the project area and include dust and erosion control, fencing of the area of impact, monitoring by a biologist, and an education program for construction workers.¹¹ These BMPs would be required absent listing of, and designation of critical habitat for, the Otay tarplant and are therefore not quantified in this analysis. However, the Service and the California Department of Fish and Game (CDFG) recommended project modifications during a field meeting on August 28, 2002 based on impact to the tarplant. These modifications are soil salvaging of the impacted area, where feasible, and purchasing and/or dedication and management of separate lands at a ratio of four to one for stems and land.¹² The costs of these modifications are as follows:

- Soil salvaging of 0.2 acres of land at a cost of \$320 to \$640;
- Purchasing and/or dedication of 0.8 acres of land containing 800 stems at a cost of \$22,000; and
- Management of lands anticipated to cost \$2,160.

The total cost of these project modifications is estimated to be \$24,500 to \$24,800.¹³ This estimate is conservative (i.e., more likely to overstate, rather than understate, costs) as it is likely that it will not be feasible to salvage all soils, or possibly any, in the impacted area because of the presence of non-native seed bank in the soil.¹⁴ Administrative costs for the formal section 7 consultation are anticipated to be \$3,900 to \$6,500 for the ACOE, \$25,000 to \$50,000 for the City of Chula Vista and \$3,100 to \$6,100 for the Service. Therefore, total section 7 costs for the Hunte Parkway extension project are expected to range from \$56,500 to \$87,400. The following evidence indicates that this consultation and the resulting project modifications would have likely taken place even in the absence of proposed critical habitat: (1) the presence of listed animals at this site prompting a section 7 consultation; (2) information provided by the MSCP plan about the potential presence of the plant in this area; and (3) the actual occurrence of the plant in the area of the proposed project modifications. All costs are therefore considered to be co-extensive with the listing of the tarplant.

¹¹ Dudek and Associates, Incorporated. "Biological Assessment for Hunte Parkway Extension Project- Chula Vista, California." April 2, 2002.

¹² Letter from Dudek and Associates, Incorporated to Carlsbad Fish and Wildlife Office re: "Revisions to Biological Assessment for the Hunte Parkway and Eastern Otay Ranch Drainage Facilities Project- City of Chula Vista, California," dated September 16, 2002.

¹³ Cost estimate for soil salvaging (\$1,600 to \$3,200 per acre) is based on personal communication with staff consultant at Dudek and Associates, Incorporated, October 7, 2002. Cost estimates for mitigation land purchasing (\$27,500 per acre) and for management and reporting (\$1,200 per acre and \$1,500 per acre respectively) are based on the Rolling Hills Ranch Development project as outlined in Section 2.4.1 of the *DEA*.

¹⁴ Personal communication with Carlsbad Fish and Wildlife Service Office, October 2, 2002.

Eastern Otay Drainage Facilities Project

The City of Chula Vista proposed construction of two detention facilities within the Otay Land Ranch Preserve area in order to slow runoff and remove sediment generated by upstream development projects.¹⁵ The project area for the Eastern Otay drainage facility overlaps a small portion of the Otay tarplant proposed critical habitat area and requires an ACOE 404 permit. This formal consultation addresses multiple species and their critical habitat: the California gnatcatcher, Quino checkerspot butterfly, and the Otay tarplant. Based on survey data, this project will not result in direct impact to Otay tarplant stems. However, 2.8 acres of proposed tarplant critical habitat fall within the project boundaries.¹⁶ According to comments from the Service and the CDFG regarding the project Biological Assessment, the relevant project modification is dedication and management of 5.9 acres of land accounting for impact on all species.¹⁷ The percentage of land pertinent specifically to preservation of the tarplant is not easily separable. Therefore, this addendum conservatively ascribes the full cost of land dedication and conservation measures to the tarplant.

This analysis anticipates administrative costs for the formal section 7 consultation to be \$3,900 to \$6,500 for the ACOE, \$25,000 to \$50,000 for the City of Chula Vista, and \$3,100 to \$6,100 for the Service. Land purchase of 5.9 acres at a cost of \$162,000, plus management costs of \$15,900, brings the anticipated total cost of project modifications to \$178,000.¹⁸ Therefore, total section 7 costs of the Eastern Otay drainage facilities project are expected to range from \$210,000 to \$241,000. Although this consultation involves multiple species, it is unlikely that the consultation would have included the tarplant in the absence of critical habitat designation. Tarplant critical habitat overlaps the project site, however no plant stems are present and the effect of the project on the plant is minimal. This analysis therefore attributes the costs of this section 7 consultation to designation of critical habitat for the tarplant.

¹⁵ Personal communication with Dudek and Associates, Incorporated, October 9, 2002.

¹⁶ Dudek and Associates, Incorporated. "Biological Assessment for Eastern Otay Ranch Drainage Facilities- Chula Vista, California." April 2002.

¹⁷ Letter from Dudek and Associates, Incorporated to Carlsbad Fish and Wildlife Office re: "Revisions to Biological Assessment for the Hunte Parkway and Eastern Otay Ranch Drainage Facilities Project- City of Chula Vista, California," dated September 16, 2002.

¹⁸ Cost estimates for mitigation land purchasing (\$27,500 per acre) and for management and reporting (\$1,200 per acre and \$1,500 per acre respectively) are based on the Rolling Hills Ranch Development project as outlined in Section 2.4.1 of the *DEA*.

2.5 Summary of Economic Impacts

Exhibit Add-2 summarizes revised per effort section 7 cost estimates reflecting changes in the estimated third party consultation costs and information regarding new consultations.

The changes in cost estimates for consultations involving third parties lead to a total estimated section 7 impact for designation of critical habitat of \$3.18 million to \$4.01 million, as opposed to the *DEA* estimate of \$2.81 to \$2.91 million. Section 7 costs attributable solely to critical habitat are \$210,000 to \$241,000, compared to the *DEA* estimate of \$3,500 to \$13,900. This change is due to new information concerning the presence of tarplant stems at the Salt Creek sewer interceptor project site (formerly the sole project with costs attributed to critical habitat) and better information concerning the consultation process.

Exhibit Add-2				
SUMMARY OF POTENTIAL ECONOMIC IMPACTS WITHIN PROPOSED CRITICAL HABITAT FOR THE OTAY TARPLANT OVER TEN YEARS				
Critical Habitat Unit	Potentially Affected Party	Potentially Affected Activity	Estimated Section 7 Costs	Costs Due to Critical Habitat
Unit 1	City of Chula Vista ^a	City of Chula Vista Subarea Plan	\$2,333 to \$4,200 ^c	None
	San Diego National Wildlife Refuge ^a	Fire Management Plan	\$7,000 to \$12,600	None
		Weed Control and Exotic Species Removal	\$7,000 to \$12,600	None
		Weed Abatement and Control	\$7,000 to \$12,600	None
	Sweetwater Authority Water District ^a	Joint Water Agencies Subregional Plan	\$7,000 to \$12,600	None
	Otay Water District ^a	Otay Water District Subarea Plan	\$7,000 to \$12,600	None
	Rolling Hills Ranch	Private Residential Development	\$2.41 million to \$2.94 million ^{b, d}	None
	Bella Lago	Private Residential Development	None	None
Unit 2	City of Chula Vista ^a	City of Chula Vista Subarea Plan	\$2,333 to \$4,200 ^c	None
	City of Chula Vista Preserve Design Lands	Maintenance of Flood Control Infrastructure	\$86,500 to \$160,000 ^d	None
Unit 3	City of Chula Vista ^a	City of Chula Vista Subarea Plan	\$2,334 to \$4,200 ^c	None
	Otay Ranch Land Preserve	Construction of Sewage Line (Salt Creek Sewer Interceptor Project)	\$375,000 to \$505,000 ^d	None
	Otay Ranch Land Preserve	Hunte Parkway Extension	\$56,500 to \$87,400	None
	Otay Ranch Land Preserve	Eastern Otay Drainage Facilities	\$210,000 to \$241,000	\$210,000 to \$241,000
TOTAL			\$3.18 million to \$4.01 million	\$210,000 to \$241,000
^a The Service bears the cost of these internal consultations rather than the landowners. ^b The additional \$11.25 million in project modification costs described in section 2.4.1 are primarily to address the federally-listed Quino checkerspot butterfly and the variegated dudleya, thus they are not included in this analysis of section 7 costs related to the Otay tarplant. ^c The cost of the internal consultation for the city's subarea plan is divided evenly between Units 1, 2, and 3, because all these units have lands and activities covered by the plan. ^d Costs changed from the <i>DEA</i> due to third party cost estimate revisions (see Exhibit Add-1).				
Notes: Estimates are rounded to three significant digits. Costs may not add up due to rounding.				

Exhibit Add-3 presents the present value of total costs summarized in Exhibit Add-2, as well as annualized costs of the proposed rule. Guidance provided by the Office of Management and Budget (OMB) specifies the use of a rate of seven percent, reflecting the social opportunity cost of capital (measured by the before-tax rate of return for private investment.) In addition, OMB recommends sensitivity analysis using other discount rates. One commonly applied rate is three percent, reflecting a social rate of time preference (estimated using average rates on long-term Treasury bonds).¹⁹ This analysis presents results using both of these rates.

Exhibit Add-3 PRESENT VALUE AND ANNUALIZED VALUES OF SECTION 7 COSTS ASSOCIATED WITH THE LISTING AND DESIGNATION OF CRITICAL HABITAT FOR THE OTAY TARPLANT		
	Total Estimated Section 7 Costs	Costs Attributed Solely to Critical Habitat Designation
Present Value (7% discount rate)	\$3.13 million to \$3.93 million	\$210,000 to \$241,000
Annualized over ten years	\$445,000, to \$560,000	\$29,900 to \$34,300
Present Value (3% discount rate)	\$3.16 million to \$3.97 million	\$210,000 to \$241,000
Annualized over ten years	\$370,000 to \$466,000	\$24,600 to \$28,200
Notes: Estimates are rounded to three significant digits. Costs may not add up due to rounding.		

While the total economic costs associated with section 7 implementation for the Otay tarplant may seem high, they must be considered in the context of the value of the economic activity that is predicted to occur over the next ten years in the region. In San Diego County in 2000, income from construction was about \$4.3 billion, income from transportation and public utilities totaled \$4.5 billion, and real estate income was \$2 billion.²⁰ Even assuming that each of the anticipated section 7 consultations occurs in the same year, as opposed to occurring throughout the ten year time frame used in the *DEA*, the estimated upper bound section 7 costs associated with the listing and proposed critical habitat designation for the Otay tarplant represent approximately 0.04 percent of the total

¹⁹ U.S. Office of Management and Budget, "Guidelines to Standardize Measures of Costs and Benefits and the Format of Accounting Statements," in *Appendix 4: Report to Congress on the Costs and Benefits of Federal Regulations*, March 22, 2000.

²⁰ U.S. Bureau of Economic Analysis, "Regional Accounts Data: Local Area Personal Income," <http://www.bea.doc.gov/bea/regional/reis/>.

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value of these economic activities annually. Employing a broader regional economic analysis in the *DEA* is unlikely reveal quantifiable impacts on the regional economy stemming from the proposed critical habitat designation of the tarplant.

REFERENCES

Dudek and Associates, Incorporated. "Final Program Environmental Impact Report Salt Creek Interceptor Sewer," June 2001.

Dudek and Associates, Incorporated. "Biological Assessment for Hunte Parkway Extension Project- Chula Vista, California,." April 2, 2002.

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U.S. Bureau of Economic Analysis, "Regional Accounts Data: Local Area Personal Income," <http://www.bea.doc.gov/bea/regional/reis/>.

U.S. Office of Management and Budget, "Guidelines to Standardize Measures of Costs and Benefits and the Format of Accounting Statements," in *Appendix 4: Report to Congress on the Costs and Benefits of Federal Regulations*, March 22, 2000.

Personal communication with:

Carlsbad Fish and Wildlife Office

Dudek and Associated, Incorporated; Encinitas, CA

P&D Consultants; Orange, CA

San Diego County Department of Planning and Land Use

Tetra Tech, Incorporated; San Bernardino, CA